DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Richter et al. (U.S. Patent 5630061, hereafter Richter), in view of Kaplan et al. (Pub No.

US 20080225832, hereinafter Kaplan).

For **claims 1, 11, 21, 31, and 41**, Richter teaches a method, a machine-readable

storage (see flow chart in Fig. 7), a system (see Title and Figs. 1, 2, 4) for providing

enhanced connectivity in a network (see Fig. 4 for connection from LAN to WAN),

comprising:

receiving messages from a physical layer in a layer above a MAC layer (see Fig.

4 for PD in unit 54 to receive messages from hardware layer 52 and MAC layer 50; PDs

54 are the next layer up from MACs 50 in all of the communications, IEEE and ISO,

architectures, see col. 4, lines 40-42. PD stands for Protocol Drivers, see col. 4, line 38).

However, Richter fails to specifically teach but Kaplan teaches

aggregating after receiving messages from a physical layer of each

communication band and each communication channel (see Fig. 1, the unit 26

aggregates messages from different types of devices with different bands through

different channels; the wireless interface 20 may be configured for communications by

any type of wireless communications such as infrared, radio frequency, optical, etc., see

[0021], last 3 lines. The "infrared, radio frequency, optical" are multi-band) associated

with each of a plurality of protocols in a single multi-protocol layer of the multi-band,

multi-protocol network (Fig. 1 shows many network adapters 12-20 (including the

LAN and WAN adapters 14, 16 mentioned in Richter). The T1, LAN, WAN, POTS and

wireless of the network adapters 12-20 are different protocols);

 identifying an optimal communication path based on said received messages in

said single layer (see routing optimization unit 26 in Fig. 1; multi-protocol routing

optimization … the path chosen for transmission of a data file, see [0025], lines 1-6);

and

 establishing a communication session using said identified optimal

communication path (see Fig. 1, and the path chosen for transmission of a data file, see

[0025], lines 1-6).

 Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine Richter with Kaplan to obtain the invention

as specified, for the user to specify his priorities as to the parameters, in making the

routing determination (see [0025], last 4 lines), and to have various wired network

adapters and various wireless adapters to provide access to various commercially-

available networks as desired for best routing (see Fig. 1).

 For **claims 2, 12, 22, 32, and 42**, Richter with Kaplan teaches everything

claimed as applied above (see 1, 11, 21, 31, 41).

However, Richter fails to specifically teach but Kaplan teaches comprising

determining based on said aggregated messages, whether at least one of said

communication channels, said communication bands, and a combination of said

communication channels and said communication bands provides said optimal

communication path for said communication session (routing optimization unit 26 in Fig.

1; multi-protocol routing optimization ... the path chosen for transmission of a data file,

see [0025], lines 1-6; Fig. 1, and the path chosen for transmission of a data file, see

[0025], lines 1-6. Note that the best routing is through channel).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to combine Richter with Kaplan to obtain the invention

as specified, in making the routing determination (see [0025], last 4 lines), and to have

various wired network adapters and various wireless adapters to provide access to

various commercially-available networks as desired for best routing (see Fig. 1).

For **claims 3, 13, 23, and 33**, Richter with Kaplan teaches everything claimed as

applied above (see 1, 2, 11, 12, 21, 22, 31, 32). In addition, Richter teaches comprising

selecting at least one of said communication channels and communication bands, and a

combination of said communication channels and said communication bands for

providing said communication session (providing a respective channel to connect the

first computer and the switched network ... The media access control drivers are

coupled to a protocol driver to send messages, see col. 2, lines 4-5 & 16-17. Here the

messages are sessions).

For **claims 4, 14, 24, and 34**, Richter with Kaplan teaches everything claimed as applied above (see 1, 2, 3, 11, 12, 13, 21, 22, 23, 31, 32, 33). In addition, Richter teaches comprising locating said single multi-protocol as a sublayer within a data link layer (since the NDIS environment provides an architected interface between MACs and PDs, the Protocol Drivers are, in most cases, MAC independent … Protocol Drivers 54 usually support multiple types of MACs 50, see col. 4, lines 42-54. Along with PSTN, LAN, WAN shown in col. 1, lines 14, 21, and 25 for multi-protocols, the located PD layer is a single multi-protocol as a sublayer within a data link layer).

For **claims 5, 15, 25, and 35**, Richter with Kaplan teaches everything claimed as applied above (see 1, 2, 3, 11, 12, 13, 21, 22, 23, 31, 32, 33). In addition, Richter teaches comprising interfacing said single multi-protocol layer above a MAC layer (the NDIS environment provides an architected interface between MACs and PDs, see col. 4, lines 42-44), said MAC layer interfaced with said physical layer that is located below said MAC layer (see 52 in Fig. 4).

For **claims 6, 16, 26, and 36**, Richter with Kaplan teaches everything claimed as applied above (see 1, 2, 3, 4, 11, 12, 13, 14, 21, 22, 23, 24, 31, 32, 33, 34). In addition, Richter teaches wherein said single multi-protocol layer is a super channel sublayer, said super channel sublayer being said sublayer of said data link layer (see Fig. 4. The layer above the hardware-physical layer is link layer including MAC and PD. This layer is claimed super channel sublayer for best routing as described above in rejections of independent claims).

For **claims 7, 17, 27, and 37**, Richter with Kaplan teaches everything claimed as applied above (see 1, 11, 21, 31, 41). In addition, Richter teaches comprising monitoring at least a portion of said aggregated messages in said single multi-protocol layer by at least one of a network management process, a bandwidth management process, a load balancing process, a session control and a QoS management process (see managers 60, 62, 64 in Fig. 4 for monitoring messages; connection management … band-width allocation, see col. 5, lines 21 & 26-27).

For **claims 8, 18, 28, and 38**, Richter with Kaplan teaches everything claimed as applied above (see 1, 7, 11, 17, 21, 27, 31, 37). In addition, Richter teaches comprising interfacing at least one of said network management process, bandwidth management process, load balancing process, session control process and QoS management process with said super channel (connection establishment and disestablishment, channel or port selection, band-width allocation, etc., see col. 5, lines 25-27, and managers 60, 62, 64 in Fig. 4 for interfacing the managers with the PD layer – claimed super channel).

For **claims 9, 19, 29, and 39**, Richter with Kaplan teaches everything claimed as applied above (see 1, 7, 8, 11, 17, 18, 21, 27, 28, 31, 37, 38). In addition, Richter teaches comprising extracting channel specific data from said single multi-protocol layer by at least one of said network management process, bandwidth management process, load balancing process, session control process and QoS management process (connection establishment and disestablishment, channel or port selection, band-width allocation, etc., see col. 5, lines 25-27, and managers 60, 62, 64 in Fig. 4; Physical Port

Attributes Table (PPAT) contains all of the information necessary for connection

management, see col. 7, lines 20-21. The "all of the information necessary for

connection management" is claimed channel specific data).

For **claims 10, 20, 30, and 40,** Richter with Kaplan teaches everything claimed

as applied above (see 1, 7, 8, 9, 11, 17, 18, 19, 21, 27, 28, 29, 31, 37, 38, 39). In

addition, Richter teaches comprising sharing channel information acquired by each of

said network management process, bandwidth management process, load balancing

process, session control process and QoS management process among one or more of

said network management process, bandwidth management process, load balancing

process, session control process and QoS management process (PCMs 64 register

with the Connection Manager 62, see col. 6, line 17. The "register with" is claimed

sharing channel information).

Response to Amendment

3.   Applicant's amendment, filed on 6/29/2011, has been received and considered.

Response to Arguments

4.   Applicant's arguments filed 6/29/2011 have been fully considered but are not

persuasive.

5.   For claim 1, the Applicant questions the applicability of Richter since the above

language cited by the Examiner is not specifically recited in Applicant's claim 1. And, the

"PD" disclosed by Richter stands for "Protocol Drivers" (not Drives, as stated by the

Office Action). Also, Richter's protocol drivers are a part of the MAC layer, and they are not a "layer above a MAC layer".

Since the aggregating is taught by the second reference, and aggregating has the premise of receiving, for document writing purposes, the Examiner used the word receiving. It complies with the original limitations. And, the Examiner corrected the typing error of drives in claim 1. It should be drivers. The spelling in other claims is correct.

As to the argument that Richter's protocol drivers are a part of the MAC layer, and they are not a "layer above a MAC layer", in response, the Examiner respectfully disagrees.

Richter teaches that PDs 54 are the next layer up from MACs 50 in all of the communications, IEEE and ISO, architectures, see col. 4, lines 40-42. It is clear in the reference that The PD is a layer above MAC.

6.   Still for claim 1, Applicant was not able to find even a single reference disclosing message aggregation by the routing optimization methodology block 26.

In response, the Examiner respectfully disagrees.

The meaning of aggregating in this invention is not aggregating all messages together to send, and it is only analyzing all received messages together to decide the best path, based on the language of claim 1 and the specification. That is exactly what Kaplan teaches. Fig. 1 and para. [0025] by Kaplan show analyzing all received messages together to decide the best path.

7.   For claim 41, Applicant argues that neither Richter nor Kaplan (or their combination) disclose "a multi-protocol layer above, and interfacing with, said MAC layer".

In response, the Examiner respectfully disagrees.

In Fig. 4 and col. 4, lines 40-42, Richter teaches that <u>the PD layer 54 is above and interfacing with Mac layer 50</u>, and Kaplan teaches <u>multi-protocol routing</u>, see [0025].

8.   Other independent claims have the same issues as discussed above.

9.   Rejections of dependent claims remain effective. See details above.

Conclusion

10.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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